Role of ICT in Linking Farmers to Markets

a transaction costs perspective from Sri Lanka

XXVII International Conference of Agricultural Economists

Beijing, China. 19 August 2009

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Fundamental problem

- Farmers stuck in subsistence agriculture and unable to move towards commercial agriculture
  - Household needs vs. market needs

Basic economics

- For commercial agriculture to succeed efficient markets are a pre-requisite
- Information is critical for efficient functioning of markets
- But,
  - Costly information → High transaction costs → inefficient markets

Specific role of ICT

- Reduce information search costs → lower transaction costs → increase efficiencies in agricultural markets → increase welfare both for farmers and consumers

Many attempts to reduce information search costs

- Focus on information related to the Selling stage of the value chain [VC]
  - Reduce search cost of market prices [particularly for perishables]

The ICT example
GGS pilot as hypothe

Back

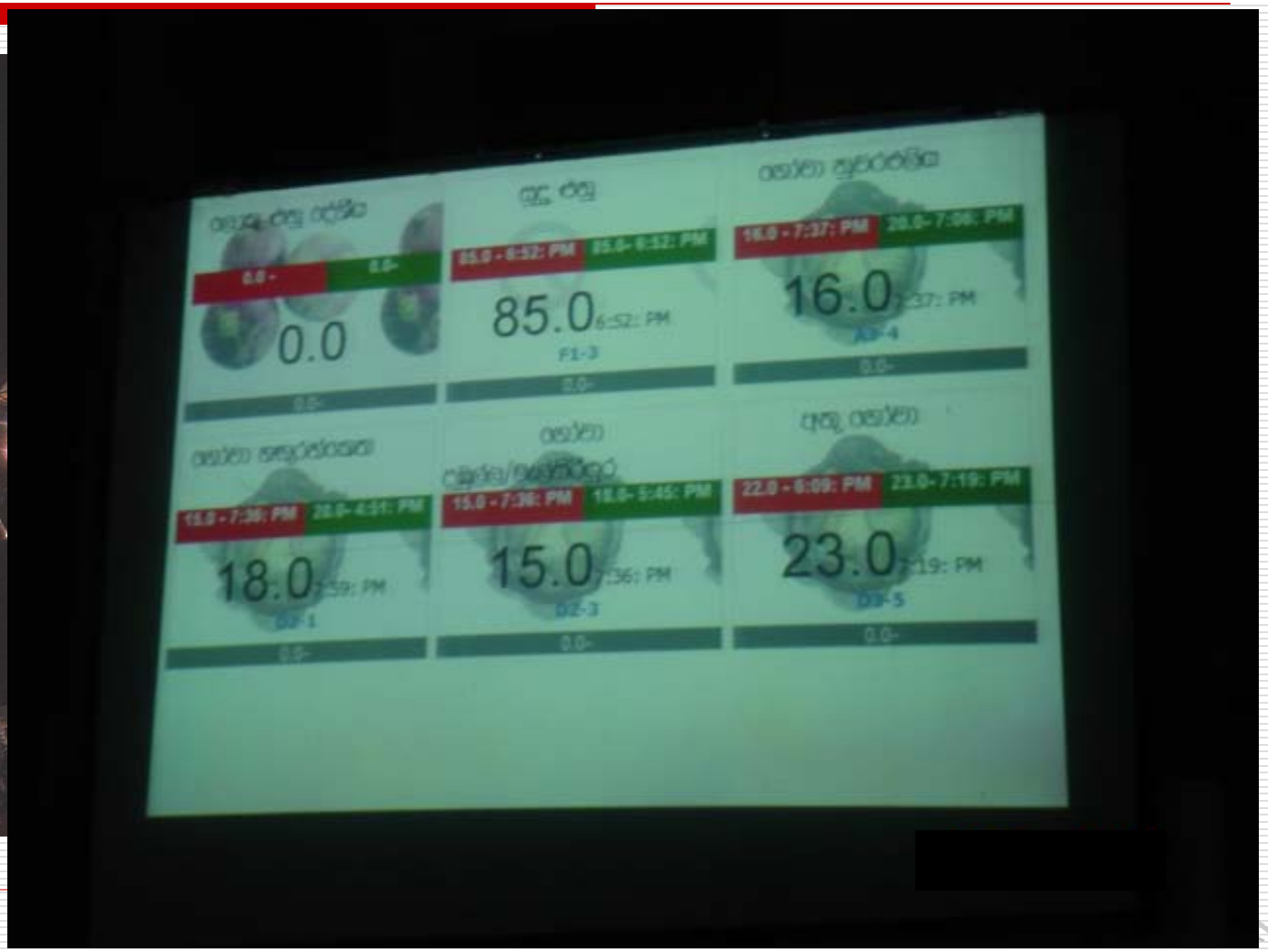
Before: Costly information search inside the market

Price capture at trader stalls

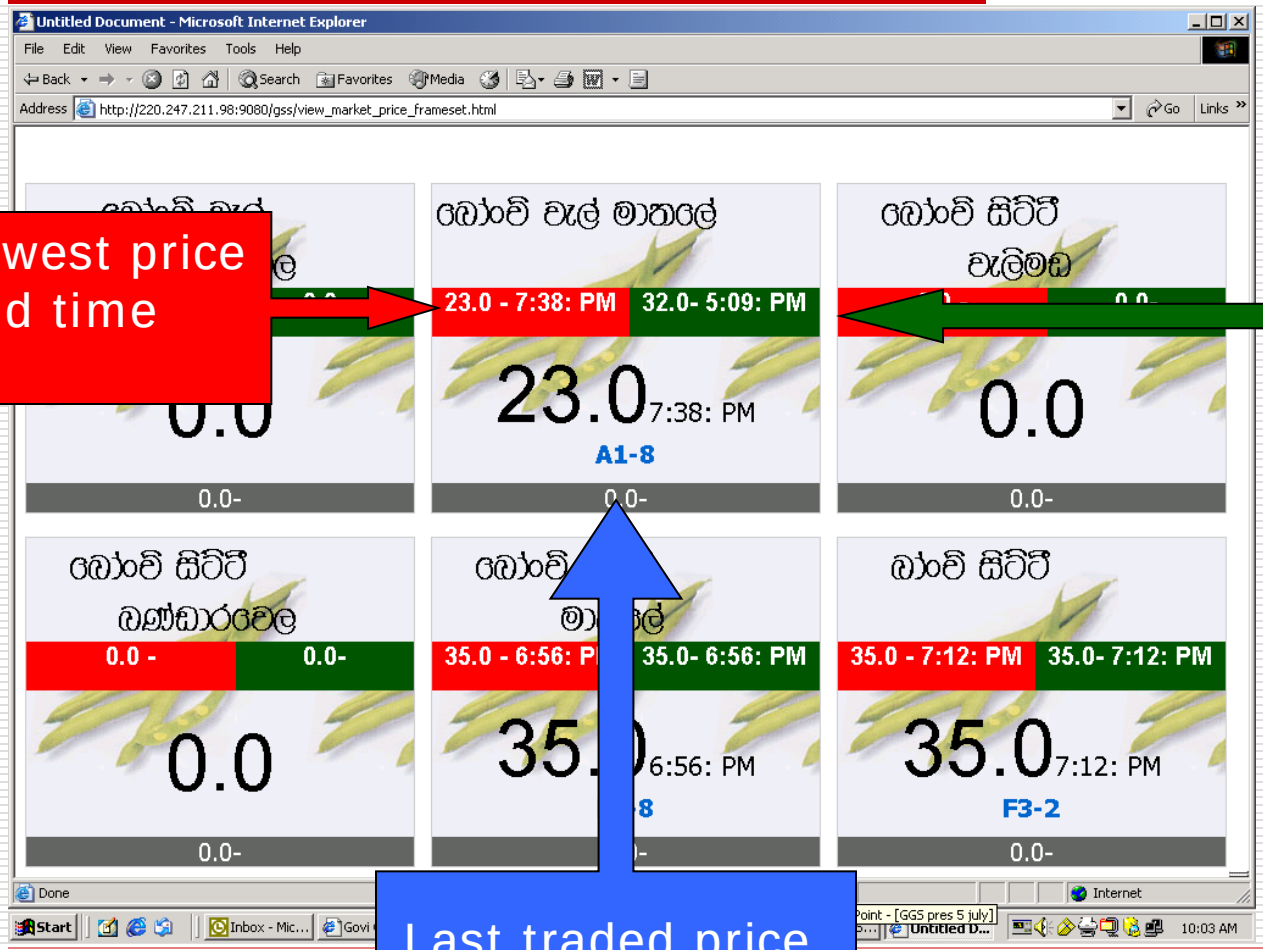
At the trader stall

Walking data collectors

After: Spot price information disseminated at DDEC



GGS Price Boards at DDEC



Lowest price and time

Highest price and time

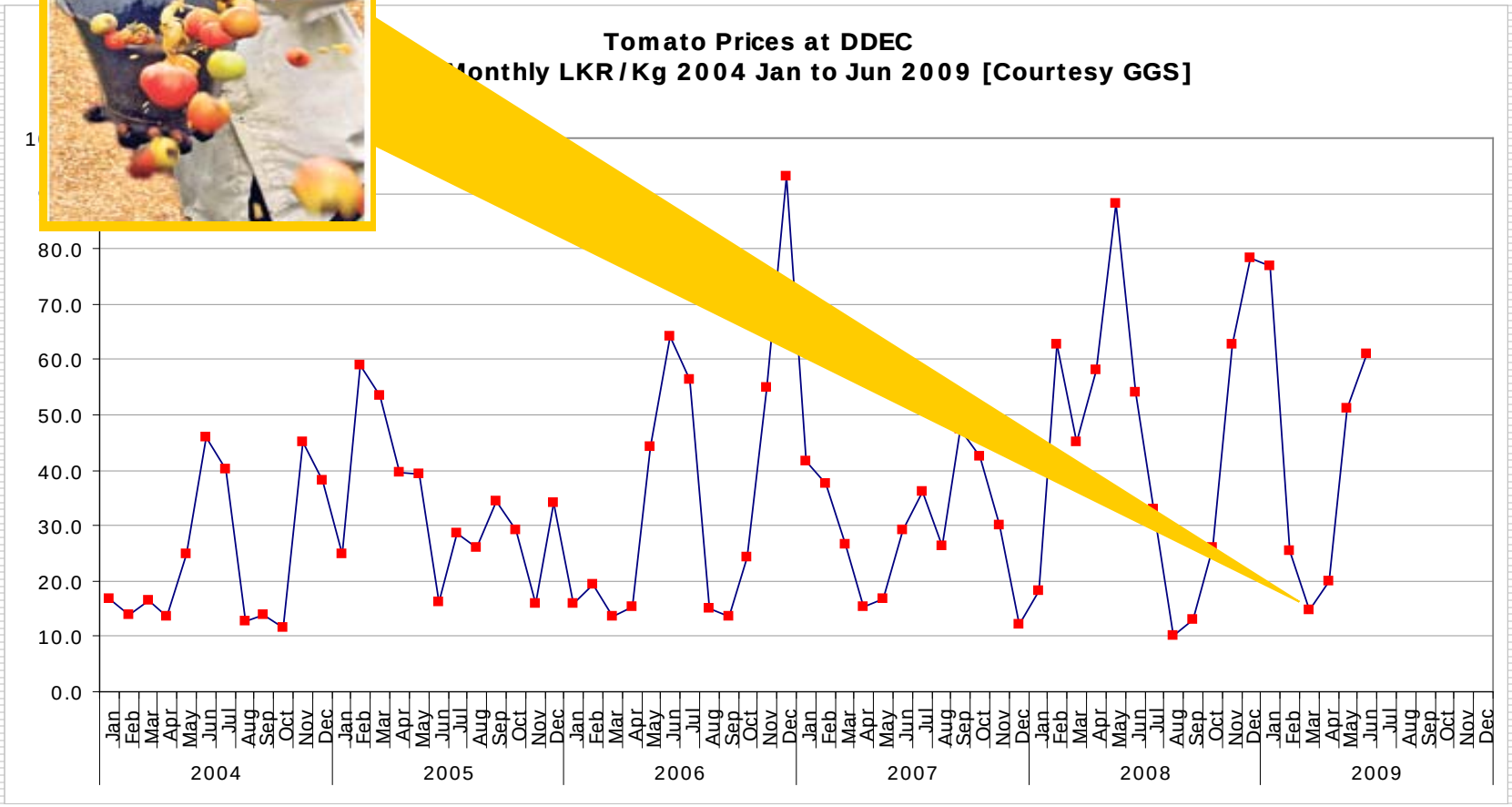
Last traded price, time and stall number

So, the question is...

- Has all this helped reduce information search costs → lower transaction costs → increase efficiencies in agricultural markets → increase welfare both for farmers and consumers
- Well...
  - Some benefit

T prices at DDEC

J – June 2009

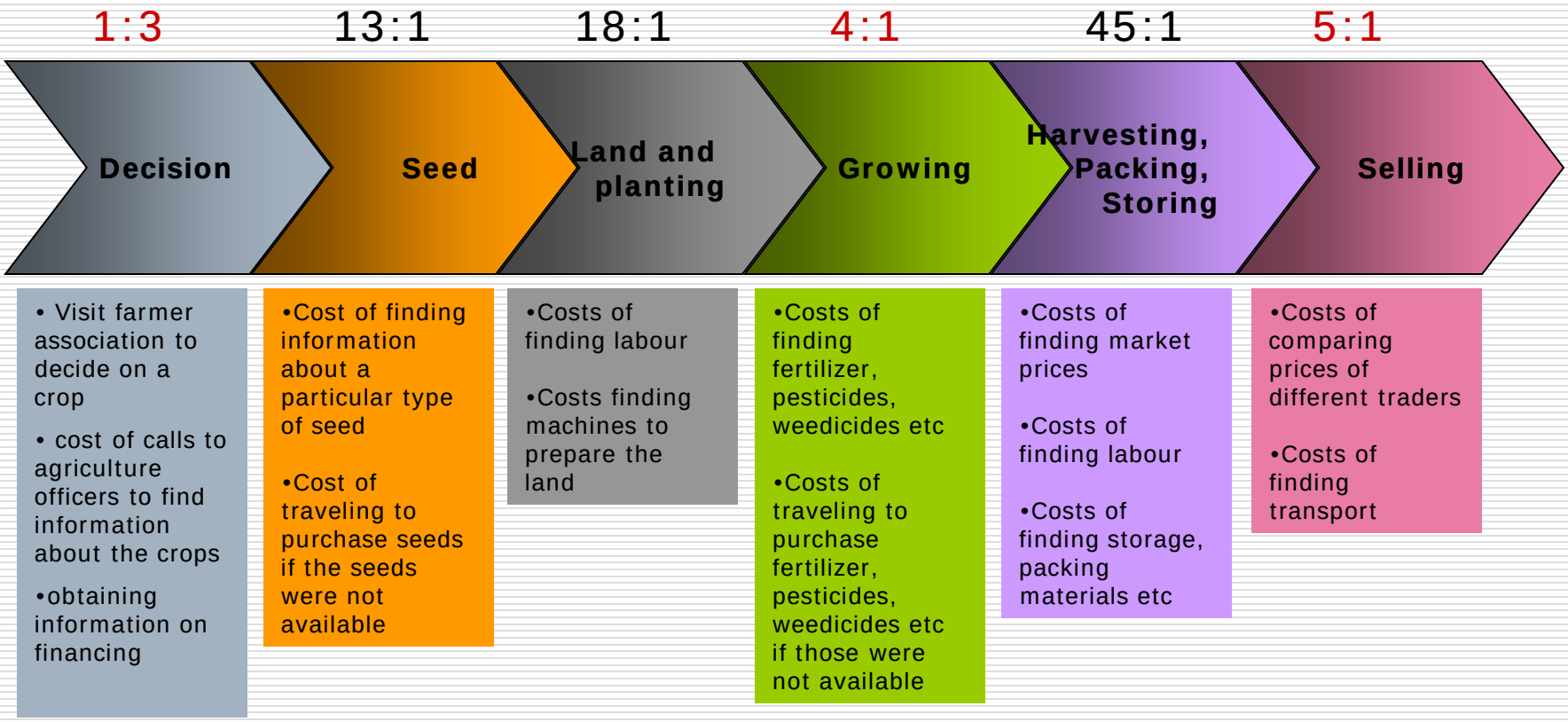


Selling price alone wont do

- Need to apply ICT to reduce information search costs along the value chain

Demand for information [small scale vegetable farmers around DDEC]

market driven; not centrally planned



De Silva, H., and Ratnadiwakara, D. (2008).
Using ICT to Reduce Transaction Costs in Agriculture through Better Communication, Working Paper, LIRNE*asia*

Decision 2*

GGS pilot objectives

If produce already brought to DDEC market

→ Help farmer get best possible price

If produce harvested, but not brought to DDEC

→ Help farmer decide whether to bring to DDEC or not

If produce just about to be harvested

→Help farmer decide whether to harvest today or tomorrow or day after

If not planted, or many days to harvest

→ Help farmer enter into FSC

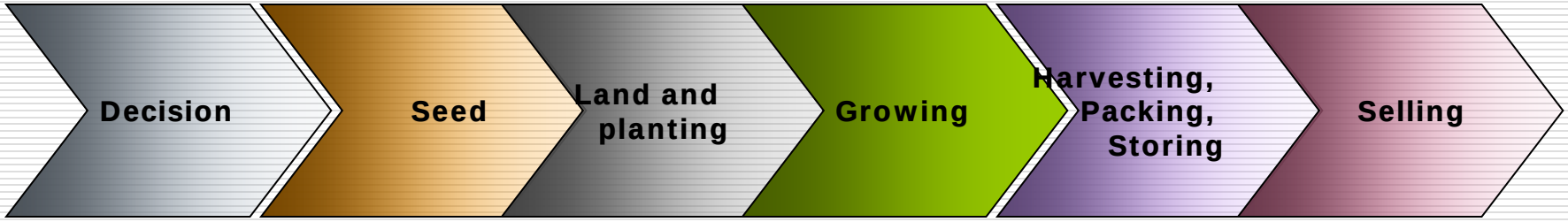
Source: Central Bank of Sri Lanka Forward Sales Contract Brochure

Only 5 had any information: Banana 1; Guava 1; Paddy 2; Papaw 1; Tomato 17

43 had no entries

Growing

45% cost of production; 20% relative information cost



- Visits to meet farmer association officials to decide on a crop
- cost of phone calls to agriculture officers to find information about the crops

- Cost of finding information about a particular type of seed
- Cost of traveling to purchase seeds if the seeds were not available

- Costs of finding labour
- Costs finding machines to prepare the land

- Costs of finding fertilizer, pesticides, weedicides etc
- Costs of traveling to purchase fertilizer, pesticides, weedicides etc if those were not available

- Costs of finding market prices
- Costs of finding labour
- Costs of finding storage, packing materials etc

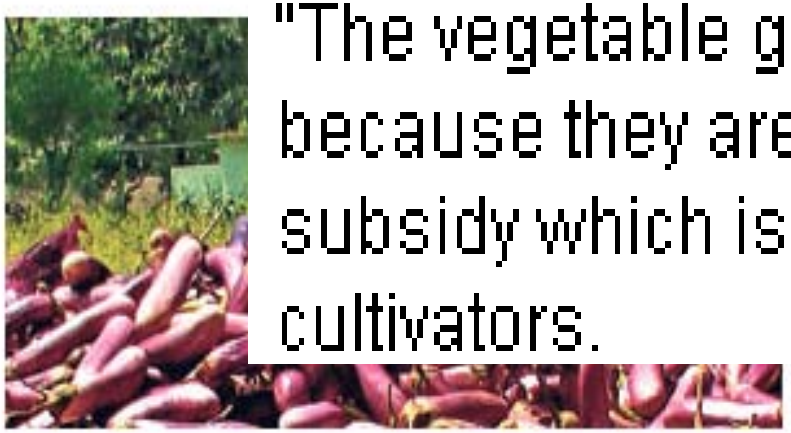
- Costs of comparing prices of different traders
- Costs of finding transport

Growing 2*

- Main cost is on information search on (ineligible) fertilizer subsidy

THE SUNDAY TIMES

Sunday April 05, 200



Gone to the cows: This picture taken last morning shows a mound of brinjals being thrown away by disheartened farmers.

"The vegetable growers were further hit because they are not entitled to the fertilizer subsidy which is only available for paddy cultivators.

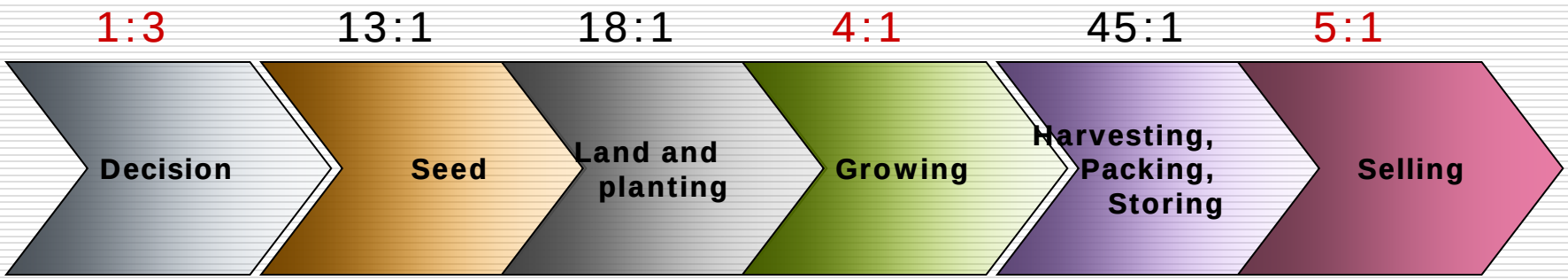
cultivator and vegetable growers. At the end of the day we are all farmers making equal contribution towards the food line. So why is this double standard?" he asked.

Growing 3*

- Department of Agriculture Audio Visual Centre
  - 30 Interactive Multimedia CD-ROMs (also helpful in other stages of the VC)
  - Toll-free (3 min) 1920 Govi Sarana
    - Demand-driven agriculture extension

Selling

8% cost of production; 17% relative information cost



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Selling 2

- If at market price boards, word of mouth
- If not arriv
  - Telephon
    - GGS IV

Where from here?

Vision for agriculture in Sri Lanka

- The 10 year policy framework
  - "To transform subsistence agriculture to a commercially oriented and highly productive sector"

Role of ICT in agriculture*

sufficient and relevant information

- Reduce information search costs → increase efficiencies in agricultural markets
  - Move from subsistence to commercial agriculture
  - Household demand → market demand
- Integrated systems that address individual information needs from Decision to Selling
  - Closing the loop: Decision ←→ Selling
  - Forward sales contracts (FSC)

A start was made…

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Role of ICT in agriculture 2**

accessible (and affordable) information

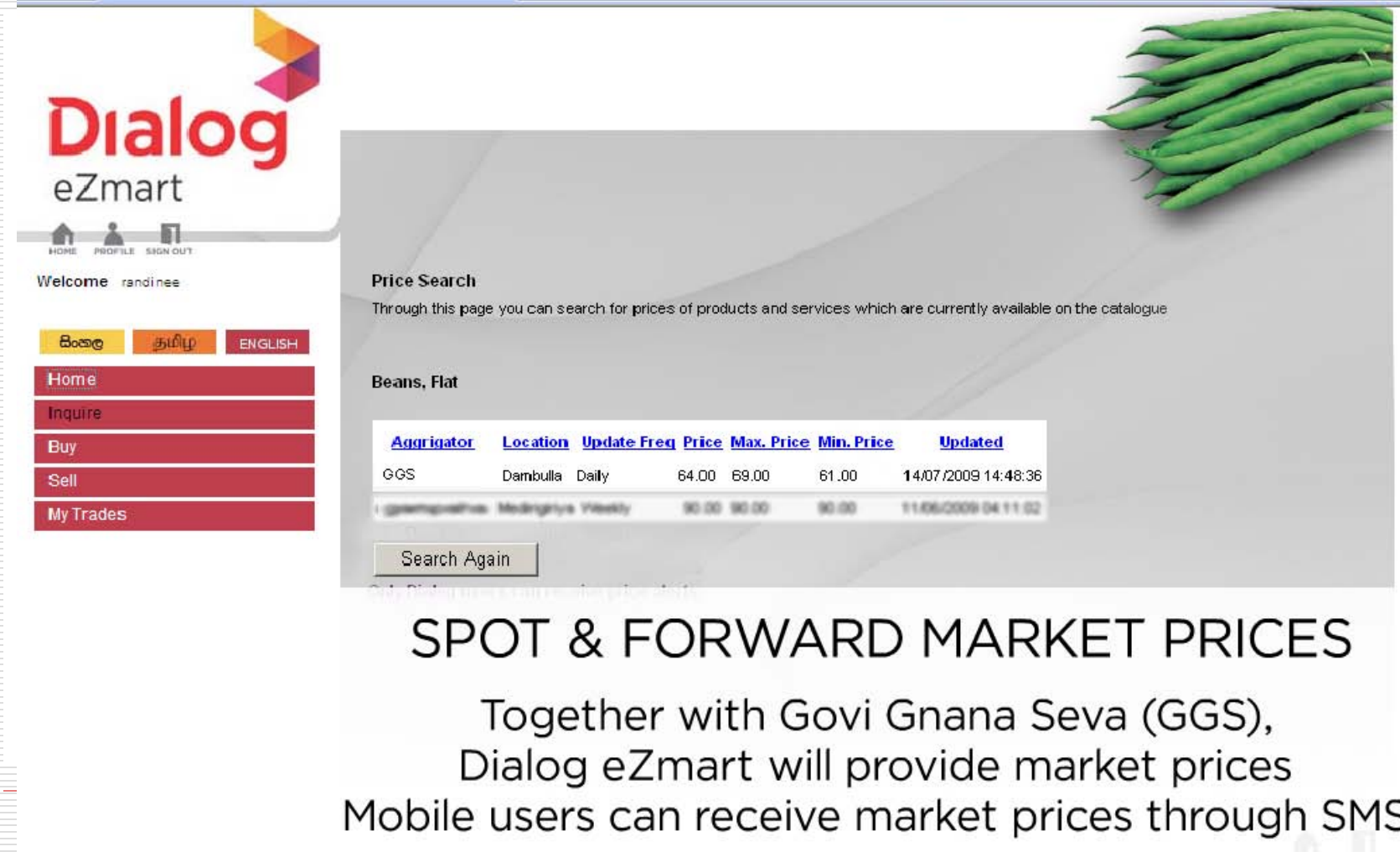
- Internet PC vs. mobile phone focus
- LIRNE*asia* 6-country study T@BOP3; Sri Lanka, September-October 2008
  - 77% used a phone in the 'previous week'
  - 73% had access to a phone in the home
    - Up from 41% in September 2006
  - 53% used sms regularly
  - But, only 3% had access to the internet

Future of ICT for agriculture will be mobile-centric

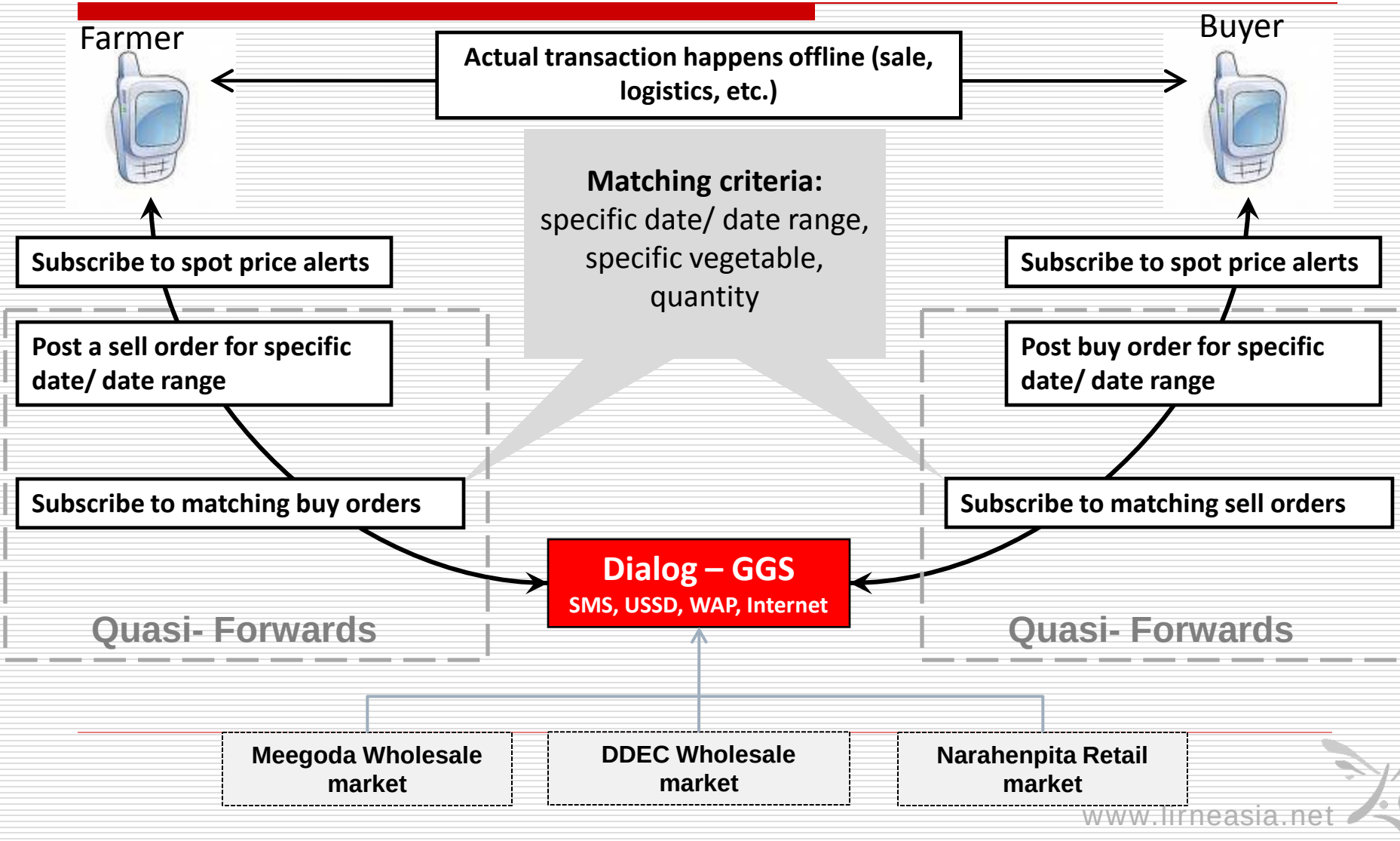
- PC as central interface was old paradigm
- New paradigm will have mobile or emerging 3G enabled devises
- Agriculture information on ubiquitous mobile devises
  - When and where user wants it at very low cost of use; no opening and closing hours

And that future will be here soon

GGS Dialog partnership



GGS-Dialog
Quasi – forward market solution



End ICT objective

a joint private-public-academic partnership

- Use mobile-centric, demand-driven, value-chain based, accurate and timely information to
  - lower transaction costs
  - Which will increase efficiencies in agricultural markets
- So that farmers will move from subsistence to commercial agriculture, that will
- Increase welfare both for farmers and consumers

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